Remarks:

This amendment is submitted in an earnest effort to advance this case to issue without delay.

The translation serving as specification has been amended to eliminate some minor obvious translation and transcription/dictation errors. In addition US-style headings have been inserted. No new matter whatsoever has been added.

Enclosed herewith are a Replacement Drawing (2 sheets.)

The claims have been carefully gone over to improve and correct their language. Reference numerals have been deleted, and the multiple dependencies have been edited out.

Claim 1 has been amended to recite the additional step of "providing on the substrate in a single epitaxial deposit at least one first epitaxial relaxing layer and on it a second epitaxial layer to be subjected to strain." In addition claim 1 now says that the defect region is generated "with ion implantation." There is ample basis in the original translation (page 8, line 20; page 10, line 7) to support the "single step" limitation.

Thus the principal difference between the instant invention and the teachings of US 6,562,703 of Maa is that, as now

defined in the claims, the instant invention uses a single epitaxial deposition process in order to produce a strained layer on a relaxes layer (see original translation page 10, lines 5 to 9) According to the instant invention as defined in claim 3 a Si-Ge layer is relaxed during a temperature treatment on the substrate. At the same time the Si-layer on the relaxed layer is strained.

Maa produces at first a relaxed Si-Ge layer after thermal treatment (see steps 102 to 110 in FIG. 1). Maa thus separates the production of a relaxed Si-Ge layer (FIG. 1; step 110-annealing) from the production of the desired strained Si layer (FIG. 1; step 116; column 4, lines 9-18). In the reference before relaxation of the Si-Ge layer there is no Si layer on the Si-Ge layer so that the reference absolutely requires a separate step to produce the Si-Ge layer, as otherwise the Si-Ge layer would be contaminated (see column 4, lines 43-45) In Maa the layer structure is removed several times from the deposition chamber before the Si layer is formed on the Si-Ge layer. With the method of this invention as now defined in the claims the structure stays in the deposition chamber and the desired structure is made much more efficiently.

The instant invention eliminates the need of the Maa sacrificial layer 107 (FIG. 1) to protect the Si-Ge layer, since before the implantation and thermal treatment there is already a Si layer on the relaxed Si-Ge layer, produced in a single deposition process (see original translation page 8, lines 24 -25 and page 10, lines 5-9). In sharp distinction, Maa has before the relaxation of the Si-Ge layer no Si layer on the Si-Ge layer. Only after

relaxation of the Si-Ge layer is a second step provided for epitaxially forming the Si layer on the Si-Ge layer, which Si layer is subsequently strained (column 4, lines 9-18). Thus Maa disadvantageously uses two separate epitaxial depositions and has to move the structure several times into and out of the various reactors before it is finished. Thus the Maa process is distinctly different from what is now claimed, making a §102 rejection of amended claim 1 on Maa impossible.

Were Maa to eliminate the sacrificial layer or somehow clean or polish the surface of the relaxes Si-Ge layer, this would create a significant contamination problem. With the instant invention there is no need of a sacrificial layer or cleaning step since all the layers are made in the reactor in a single deposition process and only afterward is the ion implantation and thermal treatment/oxidation done to relax the Si-Ge layer on the substrate and to form on the relaxed Si-Ge layer a strained Si layer. This is all done <u>in a single step</u> (original translation page 8, lines 19-21).

Below is a detailed comparison of the Maa invention and that of the instant invention as defined in the amended claims:

Maa (US 6,562,703)	Instant invention

1a. Epitaxially depositing the relaxed Si-Ge layer in a first deposition chamber and 1b. Applying an SiO_2 sacrificial layer 107 to prevent contamination	1a. Epitaxially depositing the relaxed Si-Ge layer and the Si layer in a first deposition chamber in a single step and leaving the workpiece in the reactor (see original transl. page 8, line 24 - page 9, line 2) 1b. No equivalent step.
2a. Ion implantation in a conventional ion implanter with plasma immersion implantation and 2b. Removal of the SiO_2 sacrificial layer	2a. Ion implantation in a conventional ion implanter or with plasma immersion implantation 2b. No equivalent step.
3. Thermal treatment to relax the Si-Ge layer in a furnace.	3. Temperature treatment to relax the Si-Ge layer and simultaneous straining of the Si layer in a furnace (original transl. page 8, lines 19-21)
4. Cleaning and/or polishing the surface of the relaxes Si-Ge layer.	4. No equivalent step.
5. Epitaxially depositing the Si layer to be strained	5. No equivalent step.

The instant application deals before the thermal treatment with a layer structure comprises of a substrate, a layer to be relaxes and an epitaxially applied layer to be strained. Thus the epitaxial deposition (step 5 above) of the Si layer and the formation (step 1b), subsequent removal (step 2b) of the sacrificial layer, and the cleaning/polishing (step 4) are not needed.

The instant invention is aimed at a process capable of considerable production capacity, unlike the process of Maa. The instant intention is also not only restricted to epitaxial layers structures of Si on Si-Ge. Many different combined relaxed/strained structures can be produced by the method of the instant invention as defined in claim 1. In other words before implantation and thermal/oxidation treatment complex layer structures - e.g. substrate, layer to be relaxed, layer to be strained, another relaxes layer, another layer to be strained, and so on - can be used as the starting material, with some parts later removes (see original translation page 8, lines 5-18). This is very advantageous to save time in the production of layer structures with relaxes and strained layers, since the se layers are both produced in a single deposition process so that the workpiece can be left in the deposition reactor.

There is nothing resembling motivation or a suggestion in Maa to streamline the process so that it is like that defined in claim 1. Thus a §103 rejection on Maa is also impossible.

The second cited reference, commonly owned US 6,464,780 of Mantl, is a generic process for relaxing the Si-Ge layer on a substrate, as in Maa. There is no strained layer. This reference is therefore irrelevant to the instant invention.

Thus the instant invention is clearly allowable over the cited art. Notice to that effect is earnestly solicited.

If only minor problems that could be corrected by means of a telephone conference stand in the way of allowance of this case, the examiner is invited to call the undersigned to make the necessary corrections.

Respectfully submitted,
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Enclosure: Request for extension (three months)
Corrected version
Substitute Specification
Replacement drawing (2 sheets)